CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-05/341/CEMENT/2017-18 Date: 22.05.2017

TEST REPORT ON CEMENT

* **Customer**	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP, Bangalore.
* **Agency**	:	**Technical Manager,** KRIDL, Bangalore.
* **Name of Work**	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
* **Reference**	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
* **Sample ID**	:	Cement
Sample Received on	:	20.05.2017
Period of Testing	:	20.05.2017 to 22.05.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	160 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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****

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Technical Manager

AE-(V)

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Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-05/341/SAND-Gradation/2017-18 22.05.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP,
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of Work	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
* Reference	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
* Sample ID	:	Fine Aggregates
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	:	20.05.2017
Date of Testing	:	22.05.2017

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.50	90-100	90-100	90-100	95-100
2.36	76.70	60-95	75-100	85-100	95-100
1.18	55.20	30-70	55-90	75-100	90-100
600 Micron	25.20	15-34	35-59	60-79	80-100
300 Micron	15.00	5-20	8-30	12-40	15-50
150 Micron	7.80	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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for n/a AE(P)

****

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Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-05/341/AGG/GR/2017-18 22.05.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of Work	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
* Reference	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	20.05.2017
Date of Testing	:	22.05.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.22	95-100	85-100
20	39.28	30-70	0-20
10	16.70	10-35	0-5
4.75	4.16	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No.: CTCE/BBMP/KRIDL/W.No.13/GSB-II/GR/2017-18 24.05.2017

TEST REPORT ON GRADATION FOR COARSE GRADED GARNULAR SUB BASE

* Customer	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of work	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
* Reference	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
* Sample ID	:	Coarse Graded-II
Technical Reference	:	IS : 2720 (Part - 4), MORTH Table : 400-02
Date of Testing	:	24.05.2017

Oven Dry Wt (gm) : 5000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified Limits
53	-	-	-	100	100
26.5	2240	2240	44.80	55.20	50-80
4.75	1595	3835	76.70	23.30	15-35
0.075	765	4600	92.00	8.00	0-10
PAN	400				
Total	5000				

* Information is furnished by the Customer/Representative

Remarks: Satisfies MORTH Specifications as per Table 400-2, Grading II

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Job No.: CTCE/BBMP/KRIDL/W.No.13/GSB-II/AL/2017-18 Date 24.05.2017

TEST REPORT ON ATTERBERG LIMITS FOR GRANULAR SUB BASE

*Customer	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP, Bangalore.
*Agency	:	**Technical Manager,** KRIDL, Bangalore.
*Name of work	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
*Reference	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
Sample ID	:	GSB- (Coarse graded-II)
Technical Reference	:	IS : 2720 (Part - 5) 1985 (RA-2010), MORTH Table : 400-01
Date of Testing	:	24.05.2017

Sl. No.	Particulars	Test Results	Standards as per Specifications
1	Liquid Limit, %	23.00	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

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Job No.: CTCE/BBMP/KRIDL/W.No.13/Steel/2017-18 22.05.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of work	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
* Reference	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	22.05.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	520	562	13.3	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-05/341/Cube/2017-18 20.06.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Project Sub Division, Dasarahalli Zone, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of the work	:	Construction of RCC drain and CC roads at 3rd main and adjacent cross roads in Ravindra Nagara Ward No.13, BBMP, Bangalore.
* Reference	:	AEE/PSD/PR/01/2017-18 Dated: 20.05.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.06.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.05.2017	20.06.2017	8.123	475.5	21.13
2	23.05.2017	20.06.2017	8.235	490.3	21.79
3	23.05.2017	20.06.2017	8.300	510.7	22.70

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Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.06.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.05.2017	20.06.2017	8.163	509.6	22.65
2	23.05.2017	20.06.2017	8.293	528.7	23.50
3	23.05.2017	20.06.2017	8.305	539.4	23.97

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* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.06.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.05.2017	20.06.2017	8.162	480.8	21.37
2	23.05.2017	20.06.2017	8.299	491.2	21.83
3	23.05.2017	20.06.2017	8.328	507.4	22.55

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Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	22.06.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.05.2017	22.06.2017	8.162	483.5	21.49
2	25.05.2017	22.06.2017	8.268	493.7	21.94
3	25.05.2017	22.06.2017	8.325	510.7	22.70

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